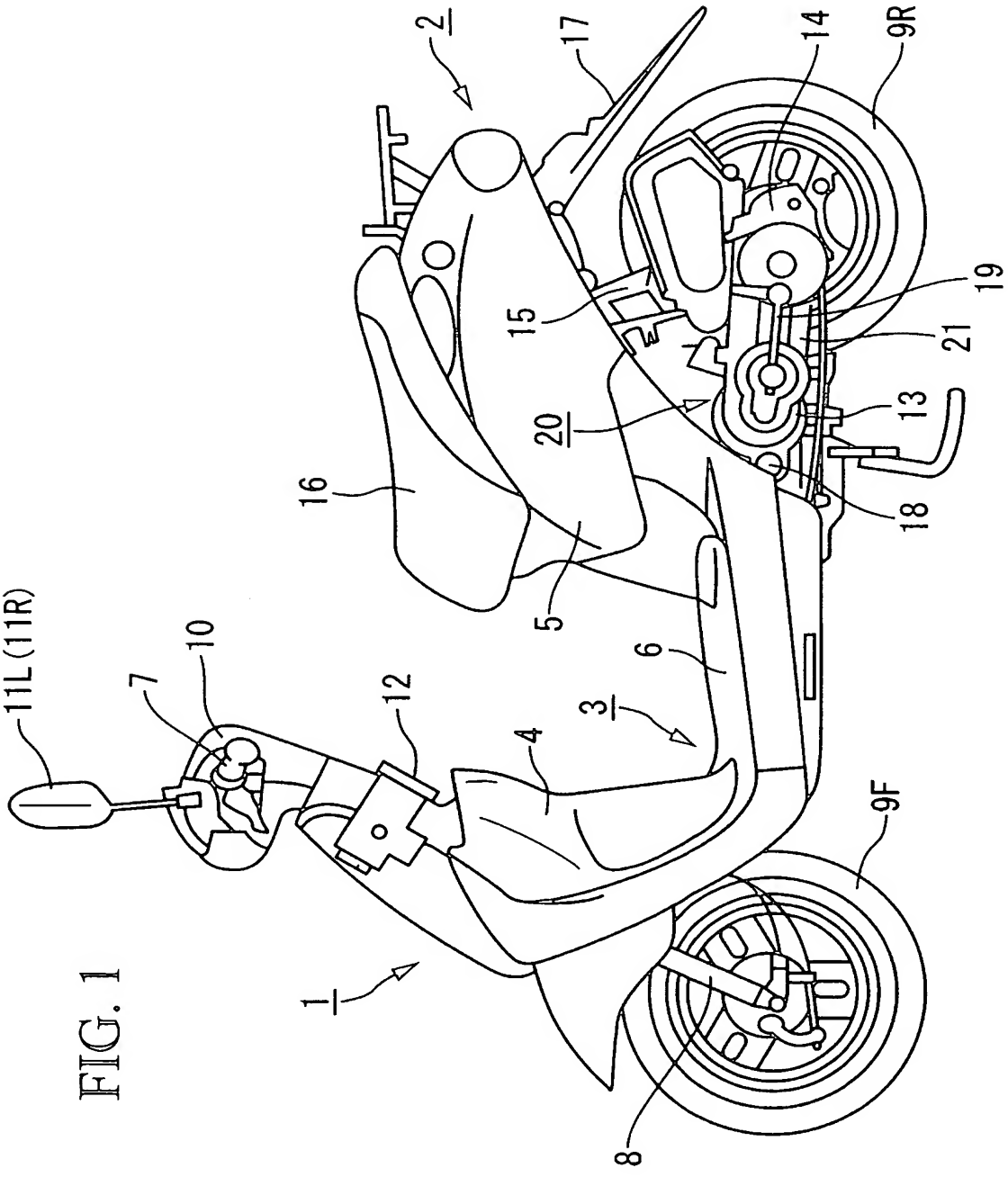


FIG. 1

FIG. 2

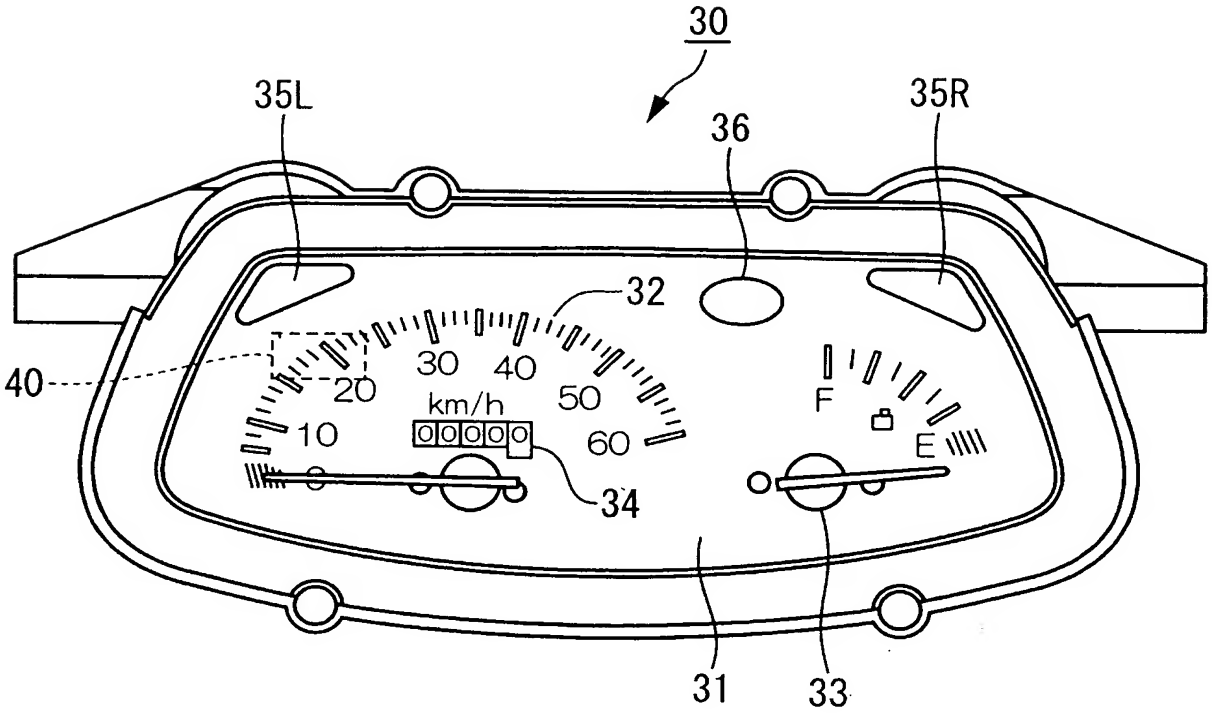


FIG. 3

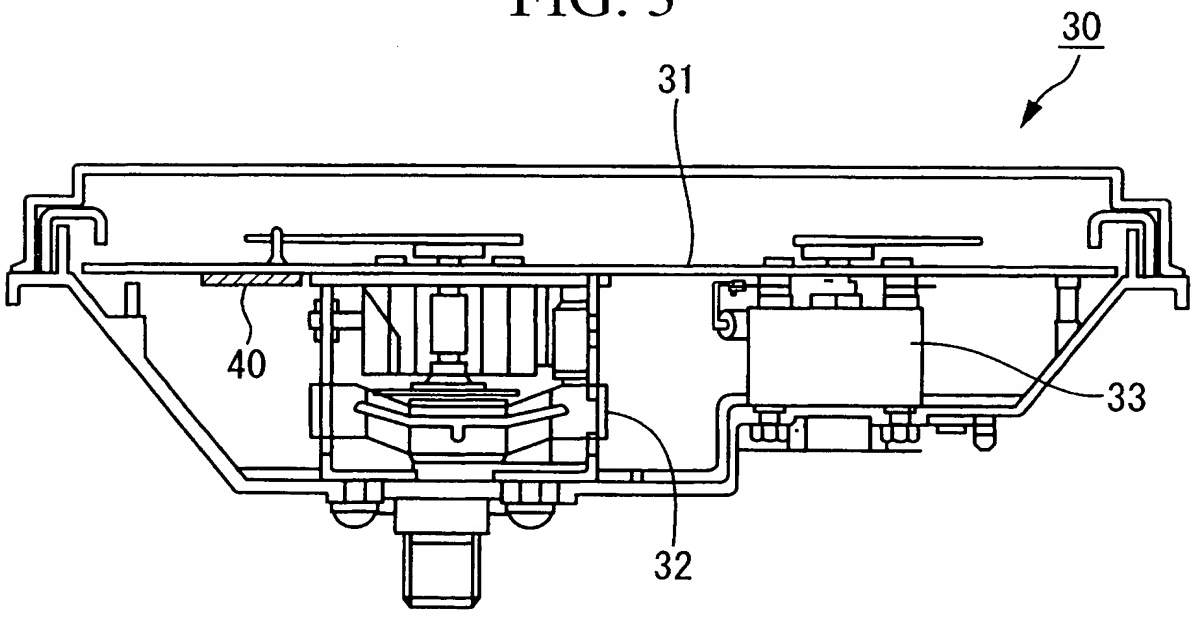


FIG. 4

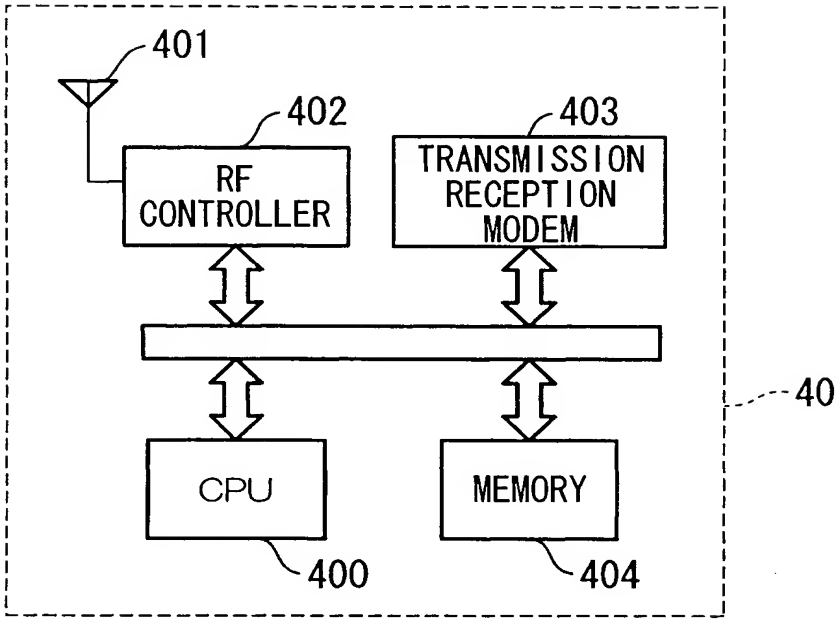

401
402
403
RF
CONTROLLER
TRANSMISSION
RECEPTION
MODEM
40
CPU
MEMORY
400
404

FIG. 5

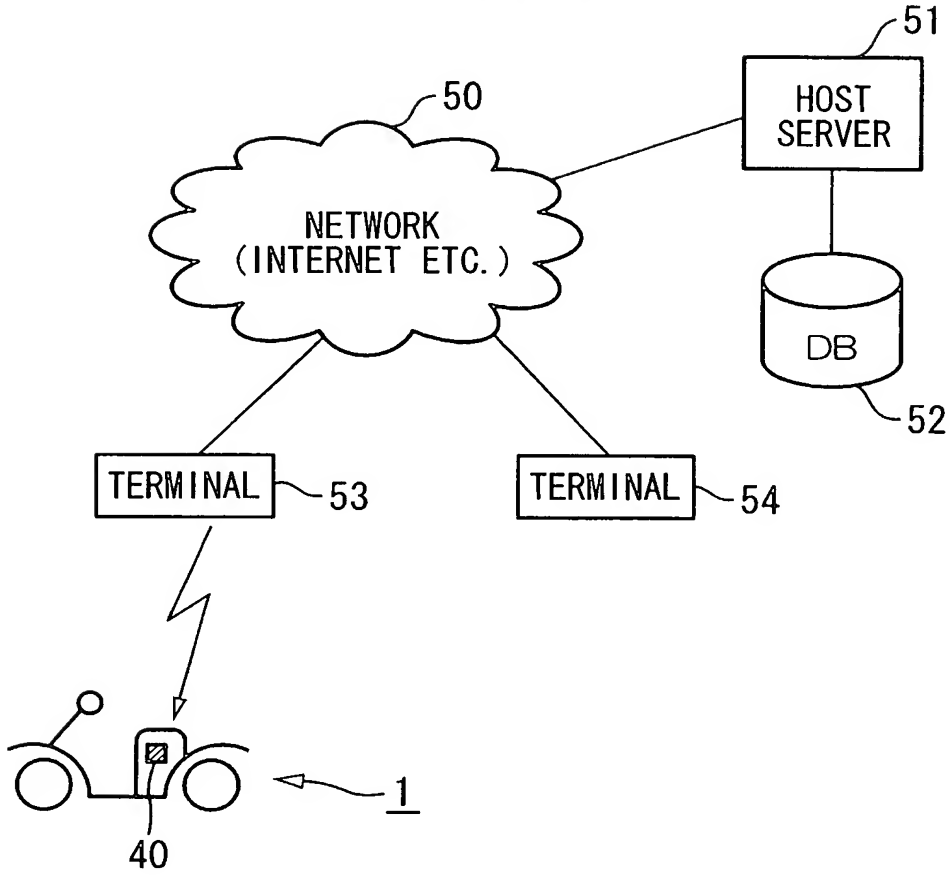

51
HOST SERVER
50
NETWORK (INTERNET ETC.)
DB
52
TERMINAL
53
TERMINAL
54
1
40

FIG. 6

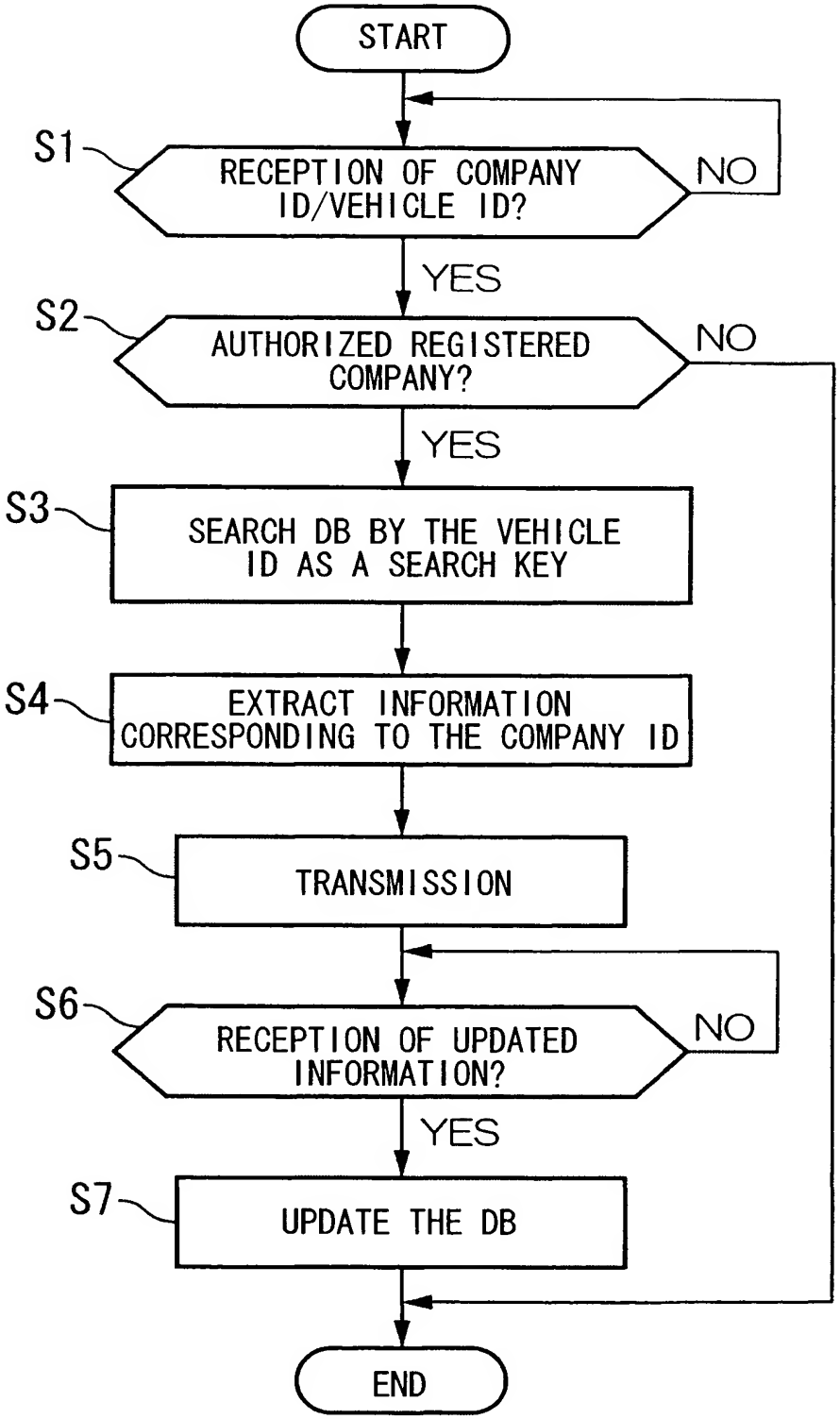

START
S1
RECEPTION OF COMPANY ID/VEHICLE ID?
NO
YES
S2
AUTHORIZED REGISTERED COMPANY?
NO
YES
S3
SEARCH DB BY THE VEHICLE ID AS A SEARCH KEY
S4
EXTRACT INFORMATION CORRESPONDING TO THE COMPANY ID
S5
TRANSMISSION
S6
RECEPTION OF UPDATED INFORMATION?
NO
YES
S7
UPDATE THE DB
END

FIG. 7

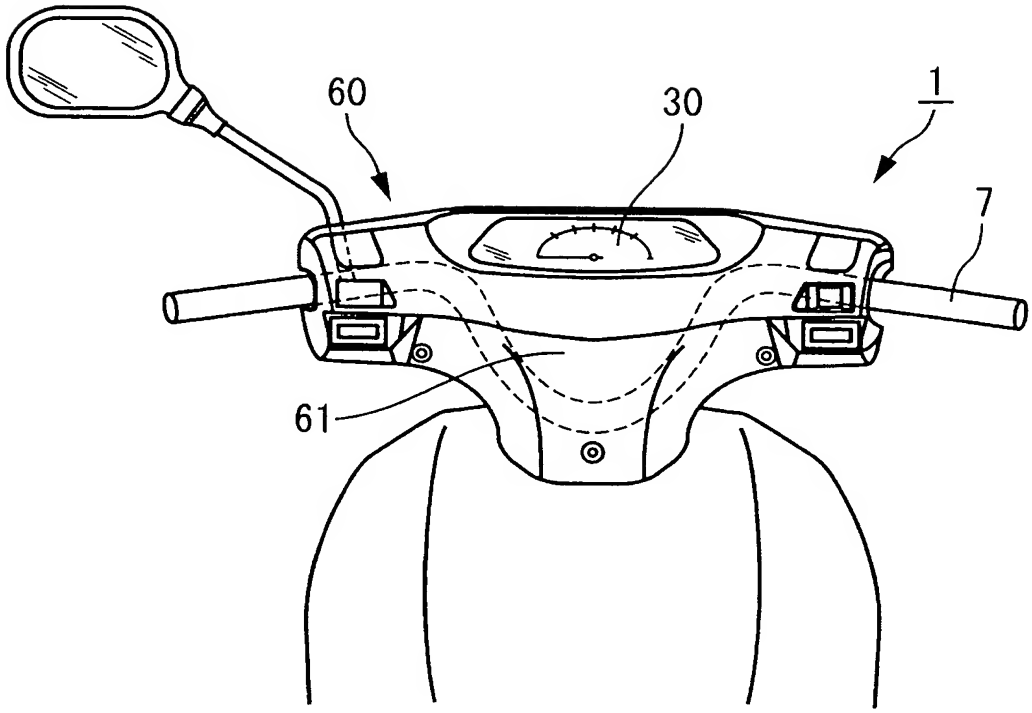


FIG. 8

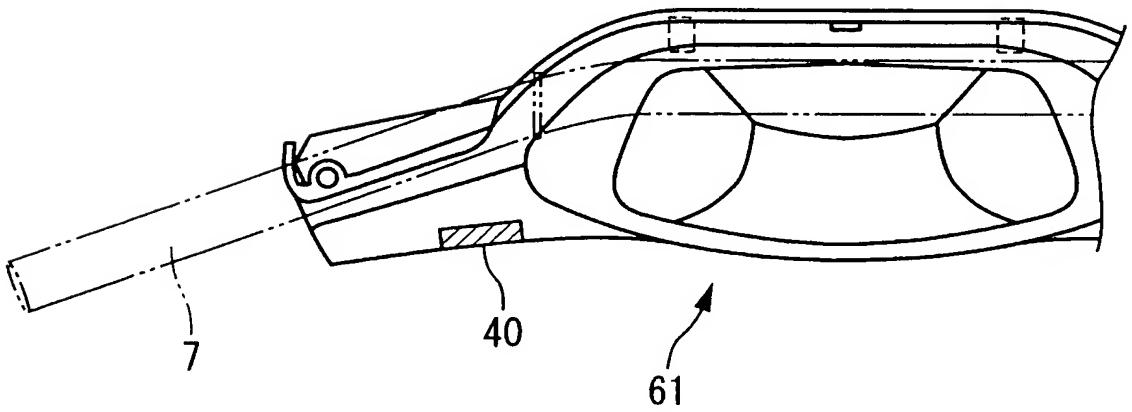


FIG. 9

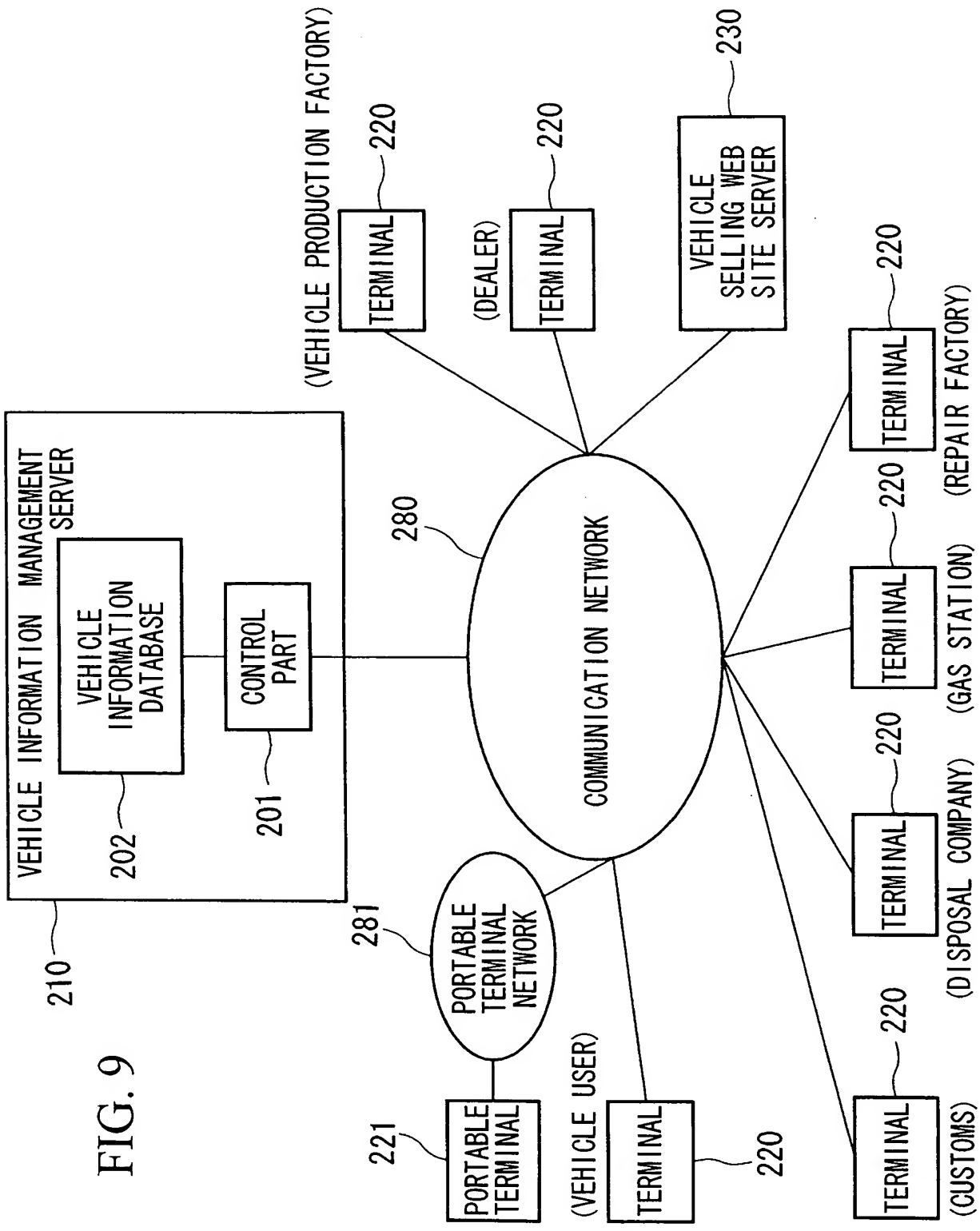

VEHICLE INFORMATION MANAGEMENT SERVER
VEHICLE INFORMATION DATABASE
CONTROL PART
202
201
210
280
COMMUNICATION NETWORK
(VEHICLE PRODUCTION FACTORY)
TERMINAL
220
(DEALER)
TERMINAL
220
VEHICLE SELLING WEB SITE SERVER
230
TERMINAL
220
(REPAIR FACTORY)
TERMINAL
220
(GAS STATION)
TERMINAL
220
(DISPOSAL COMPANY)
TERMINAL
220
(CUSTOMS)
281
PORTABLE TERMINAL NETWORK
221
PORTABLE TERMINAL
(VEHICLE USER)
TERMINAL
220

FIG. 10

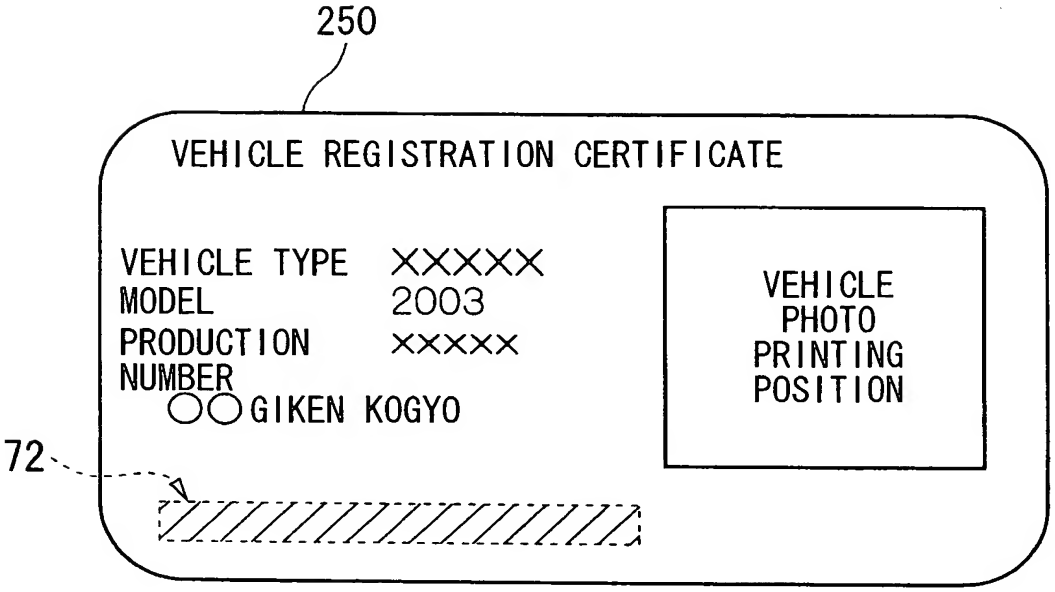

250
VEHICLE REGISTRATION CERTIFICATE
VEHICLE TYPE XXXXX
MODEL 2003
PRODUCTION NUMBER XXXXX
○○GIKEN KOGYO
VEHICLE PHOTO PRINTING POSITION
72

FIG. 11

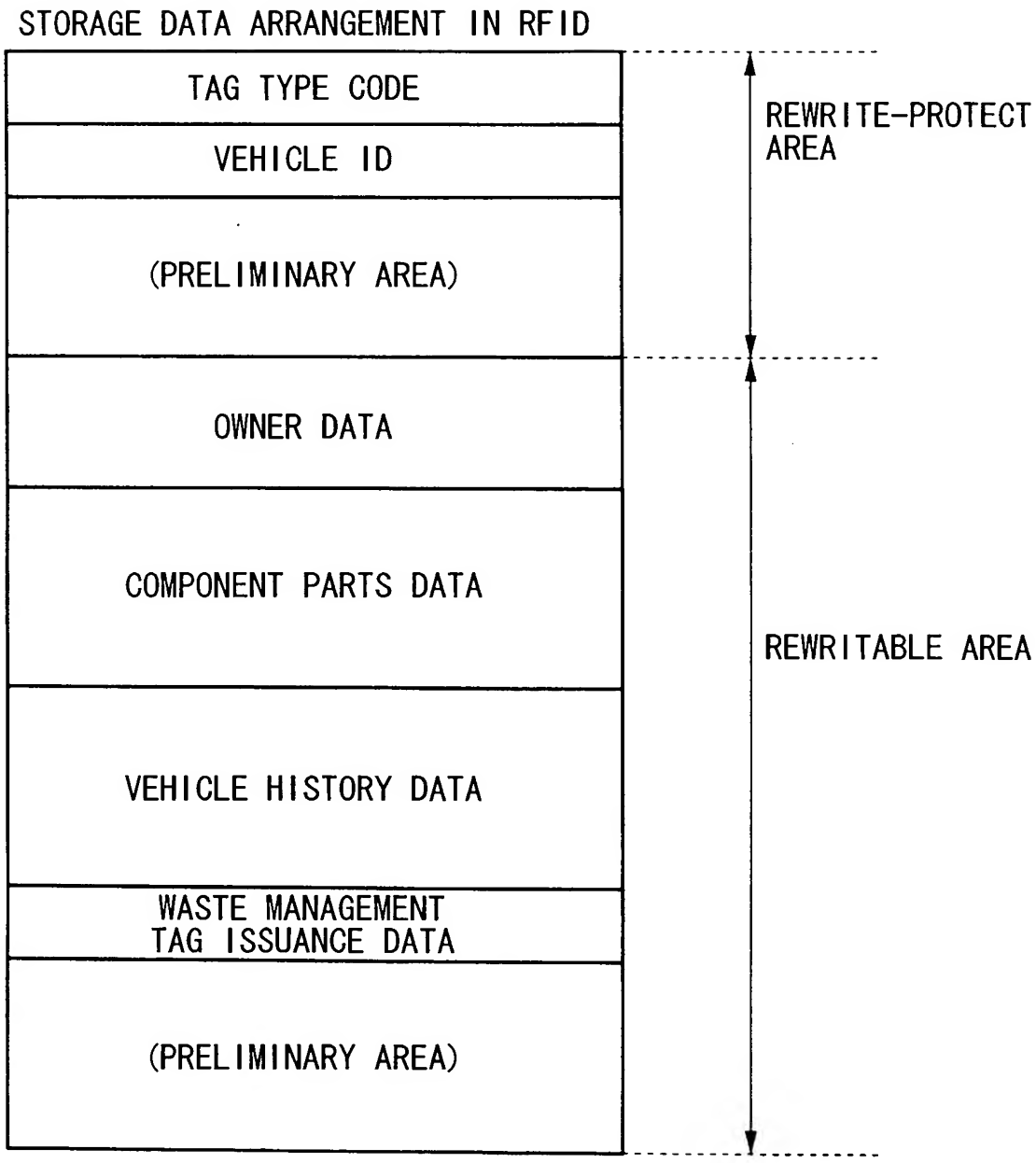

STORAGE DATA ARRANGEMENT IN RFID
TAG TYPE CODE
VEHICLE ID
(PRELIMINARY AREA)
OWNER DATA
COMPONENT PARTS DATA
VEHICLE HISTORY DATA
WASTE MANAGEMENT TAG ISSUANCE DATA
(PRELIMINARY AREA)
REWRITE-PROTECT AREA
REWRITABLE AREA

FIG. 12

VEHICLE INFORMATION DATABASE
OWNER DATA

VEHICLE ID	OWNER			
	NAME	BIRTHDAY	ADDRESS	

FIG. 13

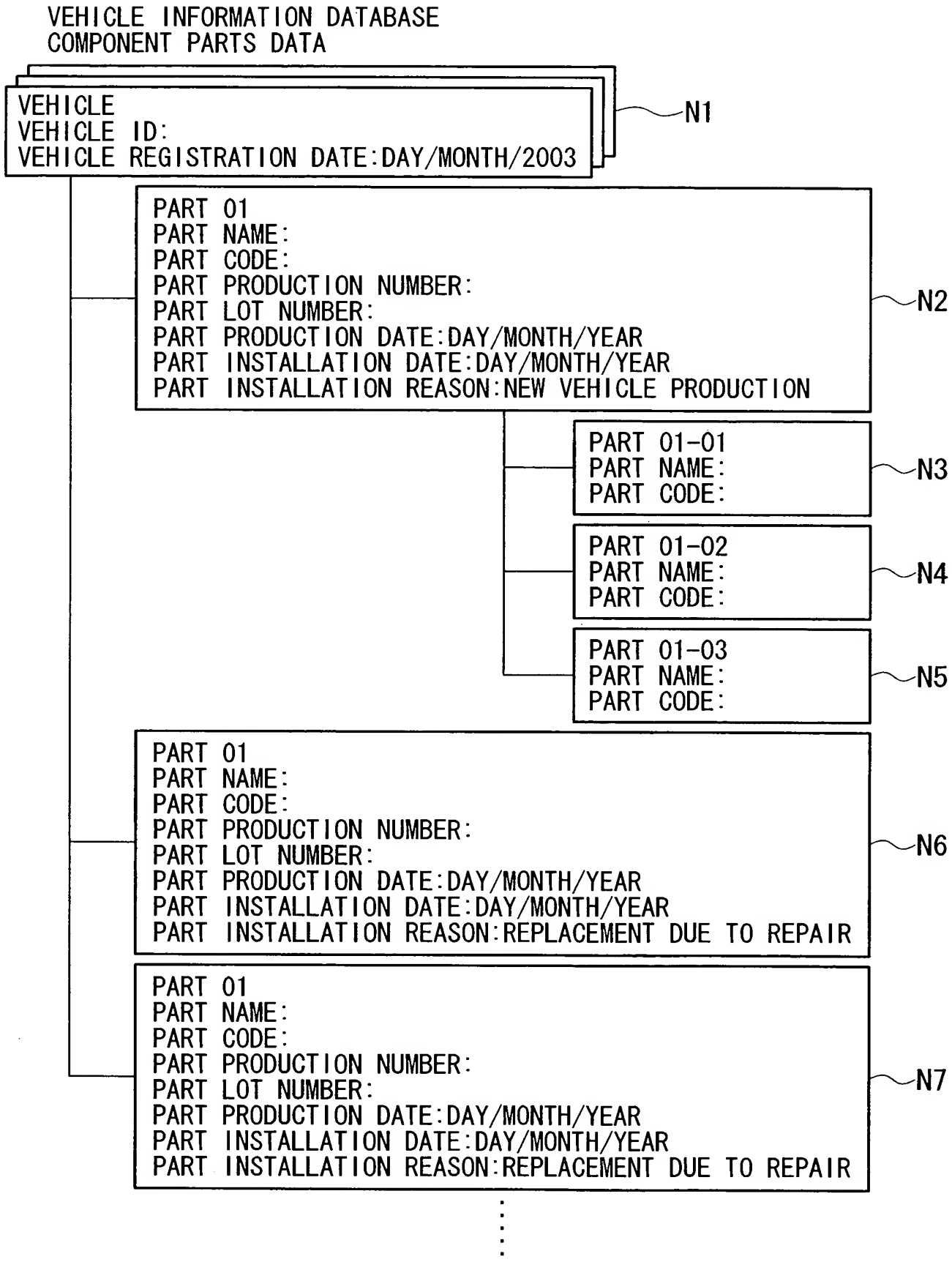

VEHICLE INFORMATION DATABASE
COMPONENT PARTS DATA
VEHICLE
VEHICLE ID:
VEHICLE REGISTRATION DATE:DAY/MONTH/2003
N1
PART 01
PART NAME:
PART CODE:
PART PRODUCTION NUMBER:
PART LOT NUMBER:
PART PRODUCTION DATE:DAY/MONTH/YEAR
PART INSTALLATION DATE:DAY/MONTH/YEAR
PART INSTALLATION REASON:NEW VEHICLE PRODUCTION
N2
PART 01-01
PART NAME:
PART CODE:
N3
PART 01-02
PART NAME:
PART CODE:
N4
PART 01-03
PART NAME:
PART CODE:
N5
PART 01
PART NAME:
PART CODE:
PART PRODUCTION NUMBER:
PART LOT NUMBER:
PART PRODUCTION DATE:DAY/MONTH/YEAR
PART INSTALLATION DATE:DAY/MONTH/YEAR
PART INSTALLATION REASON:REPLACEMENT DUE TO REPAIR
N6
PART 01
PART NAME:
PART CODE:
PART PRODUCTION NUMBER:
PART LOT NUMBER:
PART PRODUCTION DATE:DAY/MONTH/YEAR
PART INSTALLATION DATE:DAY/MONTH/YEAR
PART INSTALLATION REASON:REPLACEMENT DUE TO REPAIR
N7

FIG. 14

VEHICLE INFORMATION DATABASE
VEHICLE HISTORY DATA

VEHICLE ID	XXXXXXXX	
DATE	HISTORY OUTLINE	DETAILS
DAY/MONTH/YEAR	NEW VEHICLE PRODUCTION	○○ FACTORY, ○○ GIKEN KOGYO
DAY/MONTH/YEAR	OWNER REGISTRATION	OWNER NAME : xxxx, ADDRESS : xxxxxx
DAY/MONTH/YEAR	REFUELING	GAS STATION : xxxx, THE AMOUNT OF REFUELING : xx LITRE ...
DAY/MONTH/YEAR	REFUELING	GAS STATION : xxxx, THE AMOUNT OF REFUELING : xx LITRE ...
DAY/MONTH/YEAR	REFUELING	GAS STATION : xxxx, THE AMOUNT OF REFUELING : xx LITRE ...
DAY/MONTH/YEAR	REPAIR	REPAIR FACTORY : xxx, THE CONTENTS OF REPAIR: xxxxxx
DAY/MONTH/YEAR	REFUELING	GAS STATION : xxxx, THE AMOUNT OF REFUELING: xx LITRE ...
DAY/MONTH/YEAR	OWNER CHANGE	OWNER NAME : xxxx, ADDRESS : xxxxxx
⋮	⋮	⋮
DAY/MONTH/YEAR	REGISTRATION CANCEL	
DAY/MONTH/YEAR	WASTE MANAGEMENT TAG ISSUANCE	
DAY/MONTH/YEAR		
DAY/MONTH/YEAR		
DAY/MONTH/YEAR		
DAY/MONTH/YEAR		

FIG. 15

VEHICLE INFORMATION DATABASE
WASTE MANAGEMENT TAG ISSUANCE DATA

VEHICLE ID	
WASTE MANAGEMENT TAG ISSUED FLAG	
DISPOSAL CODE	
DISCARDING COMPANY INFORMATION	PUBLIC KEY OF DISCHARGE COMPANY
COLLECTION AND TRANSPORTATION COMPANY INFORMATION	PUBLIC KEY OF COLLECTION AND TRANSPORTATION COMPANY
INTERMEDIATE PROCESSING COMPANY INFORMATION	PUBLIC KEY OF INTERMEDIATE PROCESSING COMPANY
FINAL DISPOSAL COMPANY INFORMATION	PUBLIC KEY OF FINAL DISPOSAL COMPANY

FIG. 16

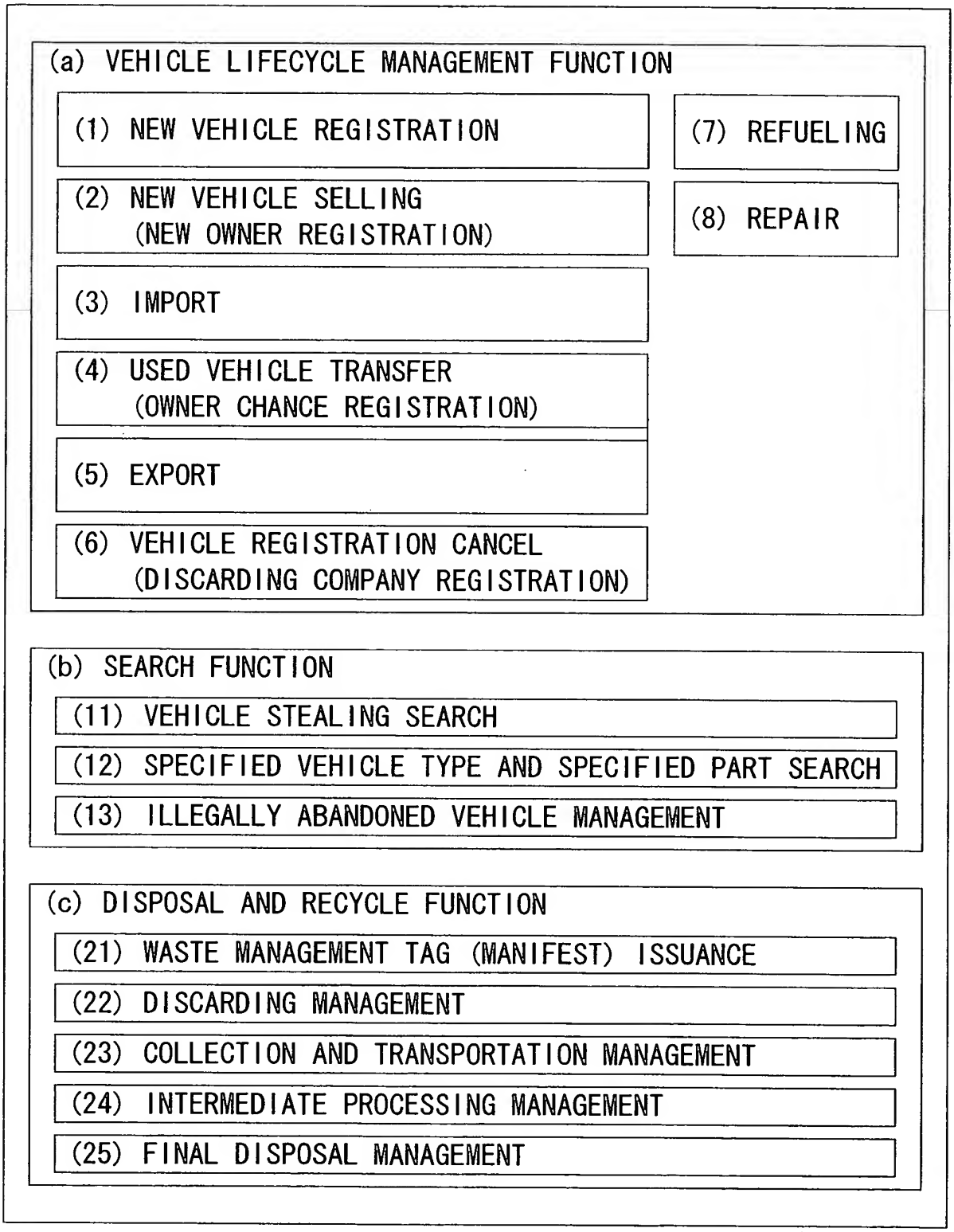

(a) VEHICLE LIFECYCLE MANAGEMENT FUNCTION
(1) NEW VEHICLE REGISTRATION
(2) NEW VEHICLE SELLING (NEW OWNER REGISTRATION)
(3) IMPORT
(4) USED VEHICLE TRANSFER (OWNER CHANCE REGISTRATION)
(5) EXPORT
(6) VEHICLE REGISTRATION CANCEL (DISCARDING COMPANY REGISTRATION)
(7) REFUELING
(8) REPAIR
(b) SEARCH FUNCTION
(11) VEHICLE STEALING SEARCH
(12) SPECIFIED VEHICLE TYPE AND SPECIFIED PART SEARCH
(13) ILLEGALLY ABANDONED VEHICLE MANAGEMENT
(c) DISPOSAL AND RECYCLE FUNCTION
(21) WASTE MANAGEMENT TAG (MANIFEST) ISSUANCE
(22) DISCARDING MANAGEMENT
(23) COLLECTION AND TRANSPORTATION MANAGEMENT
(24) INTERMEDIATE PROCESSING MANAGEMENT
(25) FINAL DISPOSAL MANAGEMENT

FIG. 17

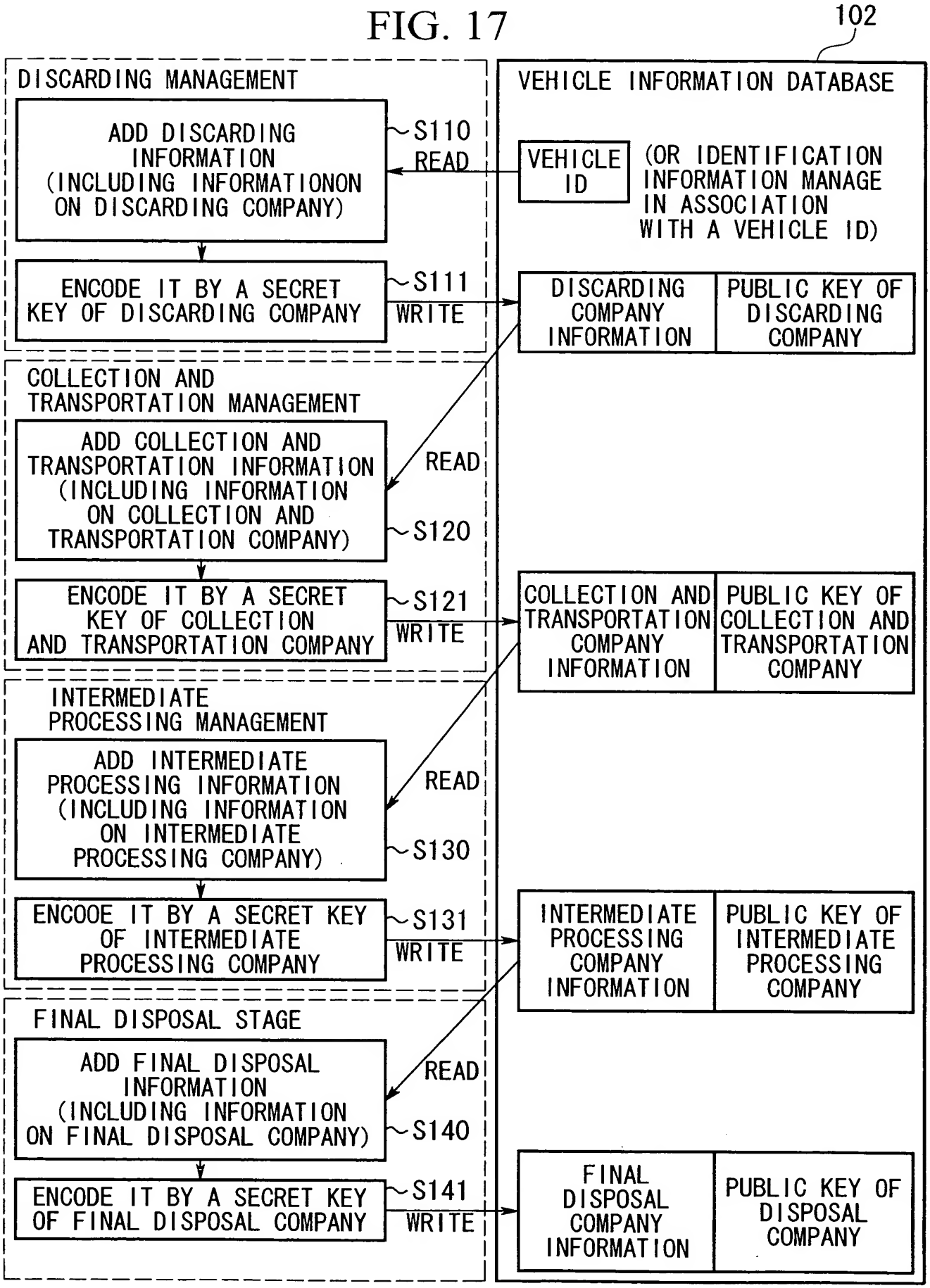
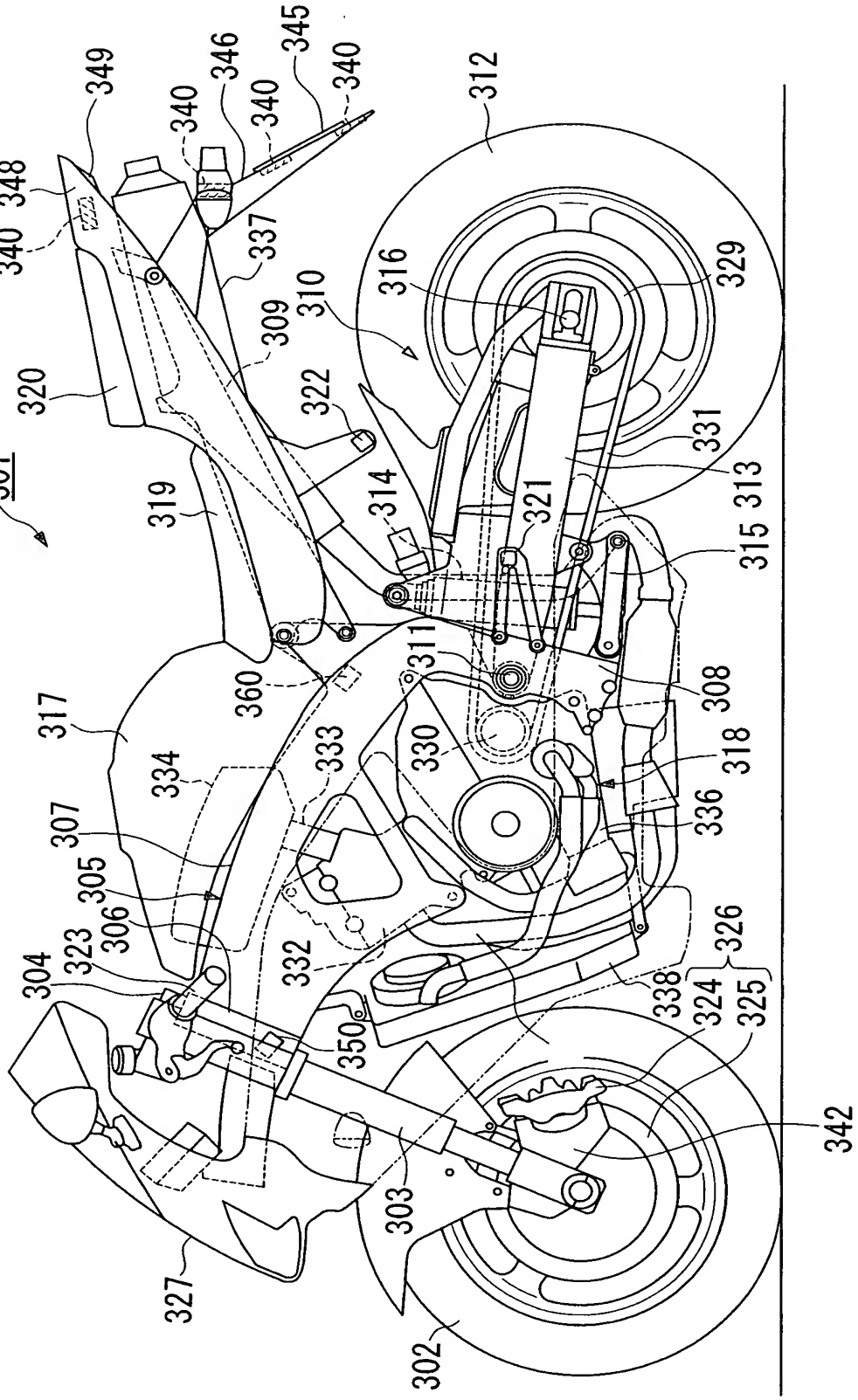

102
DISCARDING MANAGEMENT
ADD DISCARDING INFORMATION (INCLUDING INFORMATIONON ON DISCARDING COMPANY)
S110
READ
ENCODE IT BY A SECRET KEY OF DISCARDING COMPANY
S111
WRITE
VEHICLE INFORMATION DATABASE
VEHICLE ID
(OR IDENTIFICATION INFORMATION MANAGE IN ASSOCIATION WITH A VEHICLE ID)
DISCARDING COMPANY INFORMATION
PUBLIC KEY OF DISCARDING COMPANY
COLLECTION AND TRANSPORTATION MANAGEMENT
ADD COLLECTION AND TRANSPORTATION INFORMATION (INCLUDING INFORMATION ON COLLECTION AND TRANSPORTATION COMPANY)
READ
S120
ENCODE IT BY A SECRET KEY OF COLLECTION AND TRANSPORTATION COMPANY
S121
WRITE
COLLECTION AND TRANSPORTATION COMPANY INFORMATION
PUBLIC KEY OF COLLECTION AND TRANSPORTATION COMPANY
INTERMEDIATE PROCESSING MANAGEMENT
ADD INTERMEDIATE PROCESSING INFORMATION (INCLUDING INFORMATION ON INTERMEDIATE PROCESSING COMPANY)
READ
S130
ENCOOE IT BY A SECRET KEY OF INTERMEDIATE PROCESSING COMPANY
S131
WRITE
INTERMEDIATE PROCESSING COMPANY INFORMATION
PUBLIC KEY OF INTERMEDIATE PROCESSING COMPANY
FINAL DISPOSAL STAGE
ADD FINAL DISPOSAL INFORMATION (INCLUDING INFORMATION ON FINAL DISPOSAL COMPANY)
READ
S140
ENCODE IT BY A SECRET KEY OF FINAL DISPOSAL COMPANY
S141
WRITE
FINAL DISPOSAL COMPANY INFORMATION
PUBLIC KEY OF DISPOSAL COMPANY

FIG. 18


301
302
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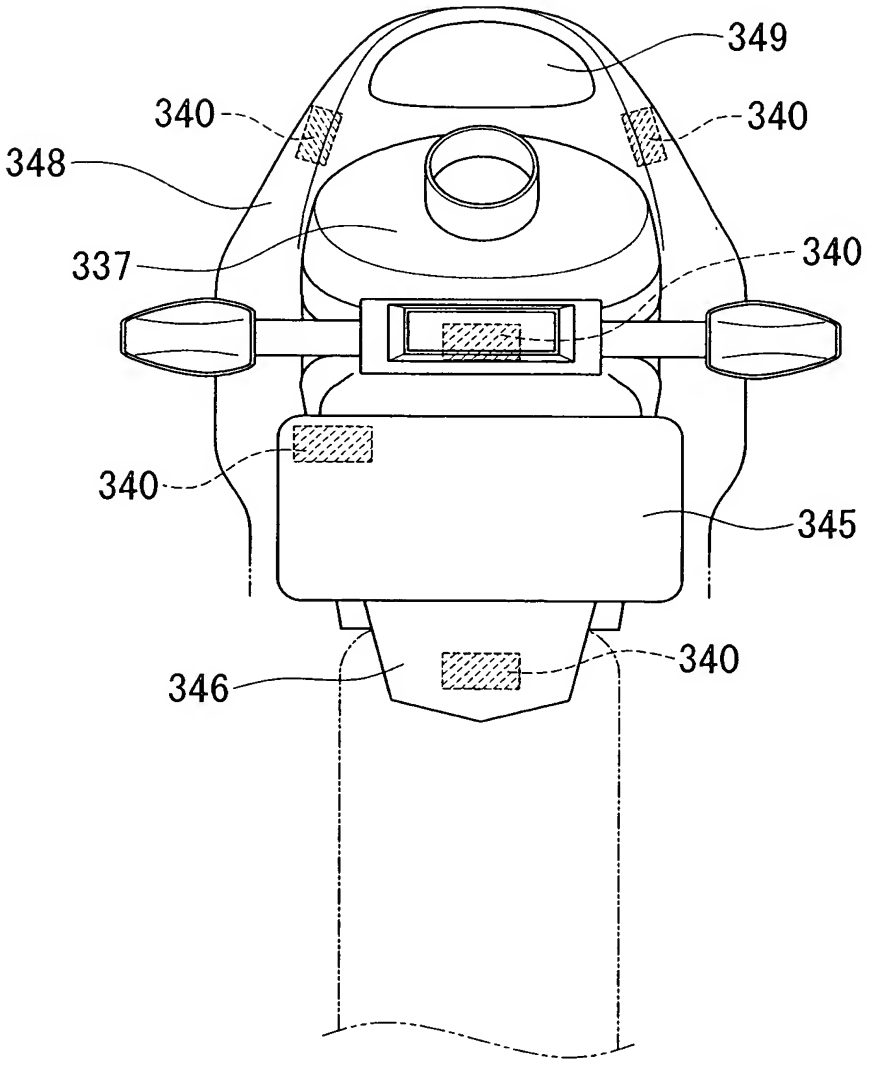
FIG. 19